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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,974	11/28/2000	Stephen M. Trimberger	X-805-3 US	7823
24309	7590	02/16/2005	EXAMINER	
XILINX, INC ATTN: LEGAL DEPARTMENT 2100 LOGIC DR SAN JOSE, CA 95124			NGUYEN, MINH DIEU T	
			ART UNIT	PAPER NUMBER
			2137	

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/724,974

Applicant(s)

TRIMBERGER ET AL.

Examiner

Minh Dieu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date October 18, 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**Requirement for Information Under 37 C.F.R. 1.105**  
**Attachment to Paper 02092005**

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.
2. The assignee is required to provide an explanation of Thomas A. Kean's history with XILINX, the assignee of this application (09/724974). The information is required to determine if there is common ownership between Mr. Kean (2001/0015919) and XILINX.  
  
It is necessary to obtain this information because an interference might possibly exists.
3. In response to this requirement, please provide information as required.
4. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

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5. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

February 10, 2005

A handwritten signature in black ink, appearing to read "Andrew Caldwell". The signature is fluid and cursive, with a large, stylized "A" and "C".

**ANDREW CALDWELL**  
**SUPERVISORY PATENT EXAMINER**

## **DETAILED ACTION**

### ***Response to Amendment***

1. This action is in response to the communication dated August 26, 2004 with the addition of claims 8-12.
2. Claims 1-12 are currently pending.

### ***Response to Arguments***

3. The declarations filed on August 19, 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the Kean reference (2001/0015919).
4. The evidence submitted is insufficient to establish a conception of the invention prior to the effective date of the Kean reference. While conception is the mental part of the inventive act, it must be capable of proof, such as by demonstrative evidence or by a complete disclosure to another. Conception is more than a vague idea of how to solve a problem. The requisite means themselves and their interaction must also be comprehended. See *Mergenthaler v. Scudder*, 1897 C.D. 724, 81 O.G. 1417 (D.C. Cir. 1897).
5. The affidavit or declaration and exhibits must clearly explain which facts or data Applicant is relying on to show completion of his or her invention prior to the particular date. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice "amounts essentially to mere pleading, unsupported by proof or a showing of facts" and, thus, does not satisfy the requirements of 37 CFR 1.131(b). In *re Borkowski*, 505 F.2d 713, 184 USPQ 29 (CCPA 1974). Applicant must give a clear explanation of the exhibits

pointing out exactly what facts are established and relied on by applicant and how such facts relate (map) to the claims of instant application. 505 F.2d at 718-19, 184 USPQ at 33. See also *In re Harry*, 333 F.2d 920, 142 USPQ 164 (CCPA 1964) (Affidavit "asserts that facts exist but does not tell what they are or when they occurred."). (MPEP 715.07)

6. With respect to applicant showing of due diligence, where conception occurs prior to the date of the reference, but reduction to practice is afterward, it is not enough merely to allege that applicant or patent owner had been diligent. *Ex parte Hunter*, 1889 C.D. 218, 49 O.G. 733 (Comm'r Pat. 1889). Rather, applicant must show evidence of facts establishing diligence.

In determining the sufficiency of a 37 CFR 1.131 affidavit or declaration, diligence need not be considered unless conception of the invention prior to the effective date is clearly established, since diligence comes into question only after prior conception is established. *Ex parte Kantor*, 177 USPQ 455 (Bd. App. 1958).

What is meant by diligence is brought out in *Christie v. Seybold*, 1893 C.D. 515, 64 O.G. 1650 (6th Cir. 1893). In patent law, an inventor is either diligent at a given time or he is not diligent; there are no degrees of diligence. An applicant may be diligent within the meaning of the patent law when he or she is doing nothing, if his or her lack of activity is excused. Note, however, that the record must set forth an explanation or excuse for the inactivity; the USPTO or courts will not speculate on possible explanations for delay or inactivity. See *In re Nelson*, 420 F.2d 1079, 164 USPQ 458 (CCPA 1970). Diligence must be judged on the basis of the particular facts in each

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case. See MPEP § 2138.06 for a detailed discussion of the diligence requirement for proving prior invention.

7. Finally, the evidence submitted is insufficient to establish applicant's alleged actual reduction to practice of the invention in this country or a NAFTA or WTO member country after the effective date of the Kean reference. It is not clear from the affidavit where the work (i.e. product testing) occurred.

### ***Specification***

8. The disclosure is objected to because of the following informalities:

On page 35, line 28, the citation is incomplete.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 1-9 and 11-12** are rejected under 35 U.S.C. 102(e) as being anticipated by Kean (2001/0015919).

a) **As to claims 1 and 11**, Kean discloses a method and apparatus for secure configuration of a field programmable gate array (FPGA) comprising the steps of generating an unencrypted bitstream including both the bits representing the configuration of the FPGA and the bits controlling loading of the bitstream (page 1, paragraph 0010; Figure 6); encrypting the bits representing the configuration of the FPGA using at least one key (Figure 5; elements 62, 64) and combining the bits controlling loading of the bitstream with the encrypted bits representing the configuration of the FPGA to produce a partially encrypted bitstream (Figure 6; page 7, paragraph 0087-0098).

b) **As to claim 2**, Kean discloses the method further comprising the steps of loading the partially encrypted bitstream into the FPGA; decrypting the partially encrypted bitstream within the FPGA using the key and configuring the FPGA using the decrypted bitstream (page 2, paragraph 0011).

c) **As to claim 3**, Kean discloses the method wherein the key for decrypting the bits representing the configuration of the FPGA is stored in the FPGA (Figure 5, element 62).

d) **As to claims 4-5**, Kean discloses the method wherein the key in the FPGA is stored in nonvolatile memory (page 1, paragraph 0009) or volatile memory that may be powered by a battery (page 1, paragraph 0005, 0007).

e) **As to claim 6**, Kean discloses the method wherein some bits controlling loading of the bitstream provide an indication that the bits representing configuration of the FPGA are encrypted (Figure 6; page 6, paragraph 0072).



f) **As to claims 7 and 12**, Kean discloses a method for generating an FPGA bitstream having bits representing configuration of the FPGA and bits controlling loading of the bitstream (Figure 6) comprising the steps of providing an indication as to whether the bits representing configuration of the FPGA are to be encrypted; generating an unencrypted bitstream including both the bits representing the configuration of the FPGA and the bits controlling loading of the bitstream and if the indication indicates that the bits representing configurations of the FPGA are to be encrypted, encrypting the bits representing the configuration of the FPGA (Figure 6; page 7, paragraph 0087-0098).

g) **As to claim 8**, Kean discloses the step of generating an unencrypted bitstream comprises including a key address in the bits that control loading of the bitstream, and the key address references an addressable storage element in the FPGA in which the at least one key is stored (page 7, paragraph [0094]).

h) **As to claim 9**, Kean discloses loading the partially encrypted bitstream into the FPGA (Fig. 6); reading the at least one key from the storage element referenced by the key address (Fig. 8, elements 62, 74, 68); decrypting the partially encrypted bitstream within the FPGA using the at least one key and configuring the FPGA using the decrypted bitstream (Abstract).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kean ((2001/0015919) in view of Kittirutsunetorn (5081675).

Kean does not disclose storing in the FPGA a plurality of keys and wherein the key address references one of the plurality of keys.

Kittirutsunetorn discloses a system for protection of software in memory against unauthorized use comprising a programmable logic device with may be used for constructing a programmable address scrambling device and/or programmable data word scrambling device storing a plurality of keys and wherein the key address references one of the plurality of keys (Figs. 4, 4(1), 4(2), 5A, 5B and 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of storing a plurality of keys in the FPGA and wherein the key address references one of the plurality of keys in the system of Kean as Kittirutsunetorn discloses so as to provide sufficient security.

### Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

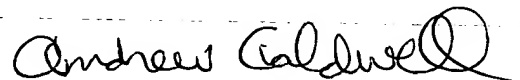
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu Nguyen whose telephone number is 571-272-3873. The examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Minh Dieu Nguyen  
Examiner  
Art Unit 2137

mdn  
2/10/05



**ANDREW CALDWELL**  
**SUPERVISORY PATENT EXAMINER**